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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/848,046	05/03/2001	Yasumori Hino	YAMAP0594USA	5579

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EXAMINER
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ANGEBRANDT, MARTIN J

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 01/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/848,046	HINO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Martin J Angebrannt	1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11/7/2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 7-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

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1. The response of the applicant has been read and given careful consideration. Responses to the arguments offered by the applicant are presented after the first rejection to which they are directed.

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 11 and 12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims recite that the overlapping trace produced does not overlap with the adjacent track and points to figure 6A. The examiner agrees that this is shown for grooves, but it is not shown for pits and other embodiments embraced by "traces". Therefore the language is not commensurate with the enablement in the specification. **The examiner notes that the applicant does have a basis for limiting the successive overlaps to only two traces.**

The applicant holds the position that "traces" embraces pits, grooves and other structures and that the illustration of the non-overlapping grooves provides a basis for the enablement which extends to other embodiments of "traces". The examiner disagrees noting that the disclosure only illustrates the single embodiment and that there is no basis for such a limitation

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with respect to pits. The examiner notes that none of the figures even illustrate pits wider than one trace. The rejection stands.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 7-9 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Kawase '063.

With respect to figure 8, the formation of the clock groove (501) which is oriented perpendicular to the tracks is produced by multiple exposure of the resist with the beam deflected radially by a small pitch so that the successive exposure overlap. (5/4-14).

The applicant argues that the description in Kurose et al. is too sparse to support the position of the examiner. The examiner disagrees, noting the only one beam is disclosed with respect to the language that the "laser beam is deflected radially of the disk with a small pitch in such a manner that a number of clock pits overlap with one another, thus forming the clock groove 501. In this case the disk is subjected to multiple exposure.". On the basis of these teachings the rejection stands.

The applicant holds that position that “traces” embraces pits and other structures in addition to tracking grooves on page 4 of the response. Therefore the rejection over the reference which only illustrates overlapping pits to form a clocking mark is held by the examiner to be embraced by the instant claims. The applicant argues that the deflection could be made at a rate much faster than the rotation. This would introduce error into the placement of the clocking groove and 24 exposure beams, covering 10 trackwidths, are shown in figure 8 in the formation of clocking feature 501 (see also figure 7). As this feature is used to determine the rate of rotation and keep it constant, the position of these marks needs to be exact. The shifting suggested by the applicant would form less of a rectangle (such as that shown in figure 7) and more of a parallelogram or truncated pyramid/triangle. This would not only cause errors in the position of the clocking features (parallelogram caused by exposure only on the outbound deflection), but also possibly their length (if the exposure occurs during both directions of the deflection). This theory also ignores the sensitivity of the resist. An instantaneous irradiation of the resist does not necessarily result in a developable image. The exposure needs to be over the exposure threshold. The width of the clocking pulse (10 tracks) is well beyond the practical level of this technique, which is generally 2-3 track widths. The applicant’s theory also ignores the “**multiple exposure**” language in the reference. The rejection stands.

7. Claims 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawase '063, in view of Van et al. EP 0304312.

In Van et al. EP 0304312, see the description with respect to figures 5a and figures 6a, where the first exposure using two beams forms two tracks (figure 5a) and the second shifts the beams so that the leftmost beam overlaps with the previously exposed region by “L”. The

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formation of a metallized stamper and the use of the stamper to in embossing or injection molding is disclosed. (col. 6/lines 41-54).

It would have been obvious to one skilled in the art to modify the disclosure of Kawase '063 by further in the mastering process to include metallization and the formation of optical disks based upon the resist pattern as taught by Van et al. EP 0304312 as this is entirely conventional in the art and provides for a more robust stamper than the resist alone. Further with respect to claims 11 and 12, it would have been obvious to one skilled in the art to apply the mastering technique with deflection of a single beam, rather than the two of Van et al. EP 0304312 with a reasonable expectation of achieving the wider grooves disclosed in Van et al. EP 0304312 to produce guide grooves disclosed by Van et al. EP 0304312 as desirable, but without the need for the additional beam division and modulation means to produce the second beam from the single laser of Van et al. EP 0304312 which represents a savings in capital costs obvious to one skilled in the art.

With respect to claims 7-10, the rejection stands for the reasons of record, including those above. With respect to claims 11 and 12, the resulting exposure would embrace the structure of Van et al. EP 0304312, which can clearly be made with the technique of Kawase '063 with the obvious advantage in the reduction in equipment/apparatus and costs associated with them. The rejection stands. The applicant has argued that the advantage of the claimed invention is the reduced equipment (reply at page 5/lines 11-14). The underlying basis for this is a savings in capital expenses, which the applicant is hardly the first to appreciate and would be readily appreciated by one skilled in the art viewing the references applied. The use of a deflection to

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produce and overlapping condition with previously exposed areas of the resist in both references serves further to drive one of ordinary skill in the art to this conclusion.

The applicant offers no further arguments beyond those address above, therefore no further response is warranted.

**8 THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

**9** Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J Angebrannndt whose telephone number is 571-272-1378. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

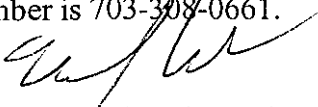
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9309 for regular communications and 703-872-9309 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Martin J Angebranndt  
Primary Examiner  
Art Unit 1756

January 17, 2004